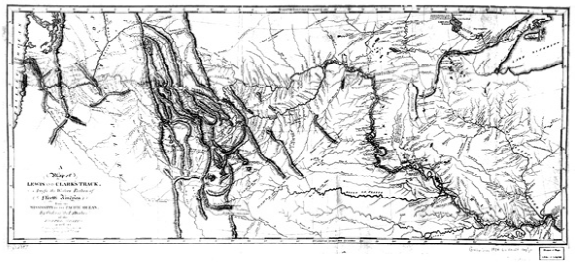
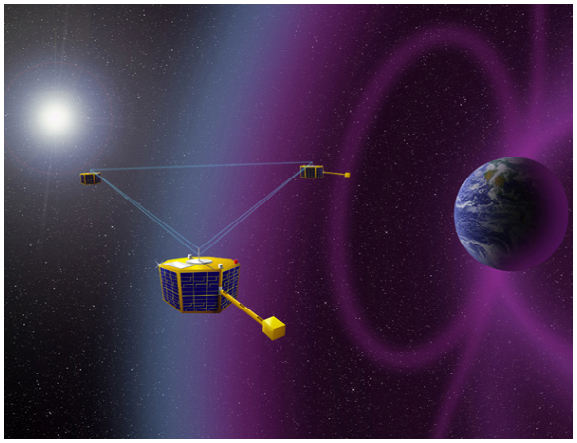
Calling All Explorers – Be a Modern-day Lewis and Clark.
Plan Your Journey to the Unknown!

At the request of President Thomas Jefferson in 1803, a small group, known as The Corps of Discovery, started a great adventure to explore the dangerous Northwest Territory. The group, led by Meriwether Lewis and William Clark, had no idea what they would see or how they would get there. Their mission was to document what they saw and create maps so that others might follow.



In 1998, the National Aeronautics and Space Administration (NASA) requested a group, known as Space Technology 5, to design and build a group of miniature formation flying satellites. Like The Corps of Discovery, the satellites will work together to document and map the Earth's magnetic field. Their mission will help scientists and engineers design future satellites that will survive this harsh space environment.

Why not plan your own amazing mission to the unknown? You could go anywhere you want, like outer space or somewhere deep within your imagination. To prepare, you need to think of what is needed to help you get there and what will you see when you arrive. To help, we have



Space Technology 5 will fly three very small spacecraft in triangular formation. They will orbit Earth, studying Earth's magnetic field.

given you a planning guide to use on your journey.

Good luck and happy travels on your mission to the unknown!

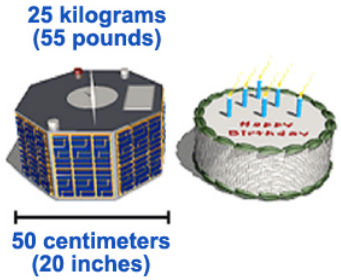
First, where will you go?

Remember, The Corps of Discovery was requested to explore unknown territories and Space Technology 5 is going to explore the space environment around the Earth. Each mission was designed to help people in the future to explore with a minimum of danger.

On your planning guide, describe and illustrate your mission and then determine how it can help others.

Second, how will you get there?

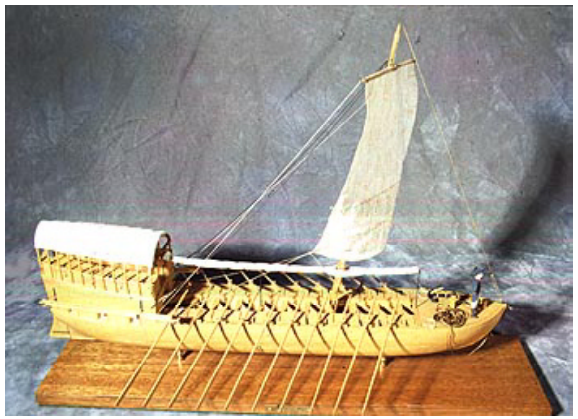
The Corps of Discovery group used many ways to get across the rugged Northwest Territory such as a specially built boat, horses, and lots of walking. Space Technology 5 has designed a satellite the size of a large birthday cake. Three of these satellites will be launched on a rocket from Kennedy Space Center in Florida. On board each satellite is a tiny booster, about the size of a dime, which will push them into a triangle formation orbiting high above the Earth.



On your planning guide, describe and illustrate what you will use to get to your destination.

Third, how will you build what you need to get there?

In the early 1800's, cars, trains and planes did not exist as we know them today. The Corps of Discovery group had to build some of the things they needed to travel. One such thing was a



Sails, oars, poles, or pulling on foot from shore could be used to propel Lewis' and Clark's specially built keel boat.

specially designed 55-foot keel boat to carry all the supplies and equipment their group needed for the journey. Lewis hired a contractor to build the boat using heavy iron that could be propelled, as conditions required, using sails, oars, poles or by the group on foot. Space Technology 5 satellites are built using aluminum (much like what is used in an aluminum baseball bat). Each satellite will house all of the specialized instruments, communications circuits and fuel tanks within this protective covering.

On your planning guide, explain what materials you will use to create your craft or vehicle.

Fourth, what equipment and supplies will you need? How will you document the journey?

Just like when you go on a trip, The Corps of Discovery group had to collect all kinds of items that would help them survive and document their journey, such as medicines, food, camping gear, hunting and fishing equipment, and numerous other things. They also needed paper, pencils, pens and storage containers to collect specimens. Space Technology 5 must also collect items like computers, radios, software, batteries, metal, and wire. Instead of using paper, each satellite "phones home" using ground-to-satellite communication links to download data.

On your planning guide, list some of the supplies and equipment you will need to bring with you to survive and document your journey

Fifth, who will you bring on your journey and what will they do?

Lewis and Clark served as leaders of The Corps of Discovery. For their team, they selected people who knew how to live in the woods, build boats and tools, cook food, and communicate with different kinds of people they would meet along their journey. Space Technology 5 also has a team that consists of designers, welders, researchers, writers, engineers and scientists. Program, Project and Mission Managers from different NASA centers and organizations lead the entire team.

On your planning guide, pick the people who will go with you and decide their jobs while on your journey.

Last, how will you tell the rest of the world what you saw and found?

In the early 1800s, the only way The Corps of Discovery group could tell people what they saw was through writing, drawing, and displaying the things they collected along the way. Space Technology 5 uses a ground system that links to an antenna located on each satellite. Each antenna receives and transmits signals, just like Walkie Talkies, from the ground. Data and images are transmitted to ground stations all over the world for everyone to see.

On your planning guide, describe what you saw and how you plan to tell everyone.

To Learn More

Book: *Undaunted Courage: Meriwether Lewis, Thomas Jefferson, and the Opening of the American West* by Stephen E. Ambrose, 1996.

Book: *Lewis and Clark for Kids: Their Journey of Discovery with 21 Activities* by Janis Herbert, 2000.

Website: Space Technology 5: http://nmp.jpl.nasa.gov/st5

Website: Discovering Lewis and Clark: http://www.lewis-clark.org/

Website: The Space Place: http://spaceplace.jpl.nasa.gov

Video: "Lewis and Clark – The Journey of the Corps of Discovery," by Ken Burns (VHS 1997)

This material was provided through the courtesy of The Jet Propulsion Laboratory, California Institute of Technology, and Goddard Space Flight Center (GSFC) in Greenbelt, Maryland, under a contract with the National Aeronautics and Space Administration. Map of Lewis' and Clark's track and photo of keel boat model courtesy of the Discovering Lewis and Clark™ website, http://www.lewis-clark.org/ .

My Journey of Exploration

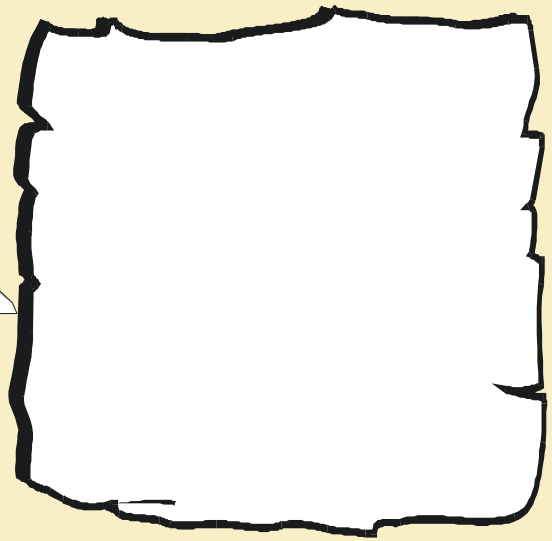
Destination

On my journey, I will explore

_____

_____

Here is a picture of my destination:



The name of my mission is

_____

My mission will take _____

days/weeks/months (pick one) to complete.

Transportation

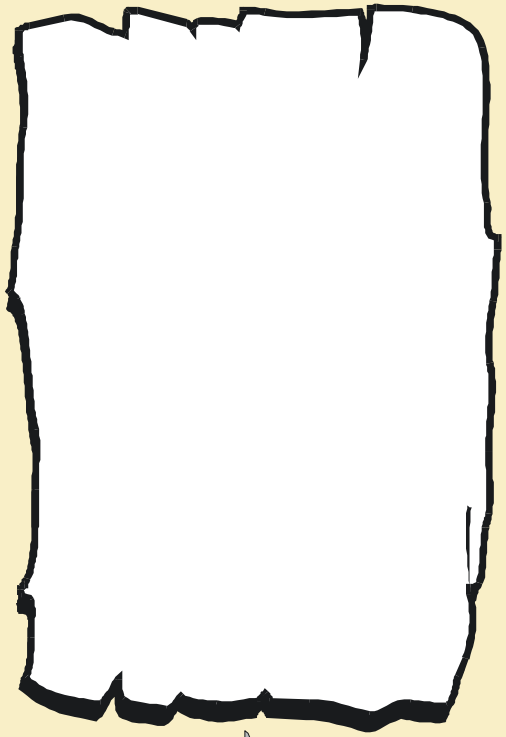
I will travel in (on) a

_____

Its energy source or fuel will be

_____

Here is a picture of my craft or vehicle:



Building My Craft

My craft or vehicle will be designed and built by

_____

I will make sure it is worthy of the journey by

_____

_____

_____

If something breaks, I plan to

_____

_____

_____

Here is the name plate for my craft:

My Journey of Exploration

Equipment and Supplies

I will take the following equipment and supplies with me for survival:

_____

_____

_____

_____

_____

I will take the following equipment and supplies with me for measuring and recording events and conditions I experience along my journey:

_____

_____

_____

_____

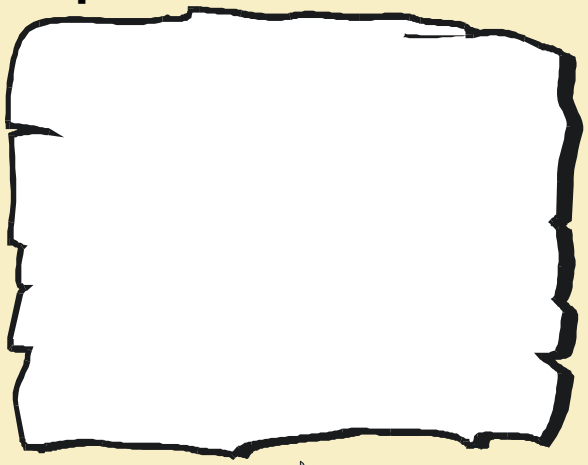
_____

Mission Team

I will need experts and helpers on my mission of exploration. I will take . . .

Person	Job
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Team picture:



Reporting Findings

I will record and report what I see and learn to the folks back home. I plan to communicate my findings by

_____

_____

_____

_____

_____

My Communication System: